Procedures for rinsing containers for PFAS analysis

ACB Project B21-02

For used containers – Pre-clean containers with laboratory grade detergent first, then rinse with water. Let the containers air dry, then follow procedures as described below

For new and unused containers - No precleaning is needed. Follow procedures as described below

Procedures

1. Sample Collection

For 2.5-gallon jugs:

To rinse the interior of the container, add 50 ml of methanol to the container. Shake and rotate the container to ensure the methanol covers as much as possible the interior surface for approximately 1 minute. Decant the methanol rinsate into a polypropylene tube.

To rinse the exterior of the container, hold and position the jug over a 200 ml beaker with one corner of the jug pointing directly onto the beaker. Using a laboratory squeeze wash bottle, spray methanol over the exterior surface, from top to bottom. Collect the rinsate in the beaker below. Rotate the jug and repeat the methanol rinse step until about 50 ml of methanol is collected in the beaker. Transfer the methanol rinsate into a polypropylene tube.

For 30-gallon and 55-gallon drums:

To rinse the drums, add 300 ml of methanol to the drum and place the cap back on.

Roll the drum on its side slowly for several turns. Place the drum in upright position, and shake it in different directions several times for approximately 1 minute

Decant the methanol rinsate from the drum into a large beaker. Transfer 50 ml of the rinsate into a polypropylene tube.

2. Sample Preparation and Analysis

Prepare quality control (QC) samples, such as procedural blank and laboratory blank spike (LBS) with 50 ml of methanol in polypropylene tubes.

Add PFAS extraction standard to all the rinsate and QC samples in the polypropylene tubes.

Add spiking standard to the LBS.

Concentrate all the samples to dryness under a stream of N_2 on a water bath (40-50°C). Some of the rinsate may not reach dryness.

Add internal standard to each sample.

Add 1 ml of methanol/water (90/10) to each sample. Vortex each tube for 30 sec.

Transfer an aliquot of the samples into polypropylene LC vials with polyethylene caps.

A nylon syringe filter may be used to filter the samples if the samples are cloudy/viscous.

Sample analysis is performed on a liquid chromatography tandem mass spectrometer (LC/MSMS), following EPA method 537.1 "*Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography / Tandem Mass Spectrometry (LC/MS/MS)*"